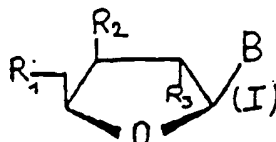


CLAIMS

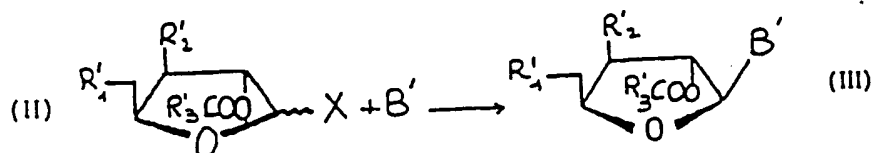
1. Method for the preparation of 2'- or 3'-deoxy- and 2',3'-dideoxy- $\beta$ -L-pentofuranocucleoside compounds of formula I:



5 in which

- B represents a purine or pyrimidine base;
  - $R_1$  represents OH;
  - $R_2$  and  $R_3$  represent, independently of each other, H or OH;
  - 10 - at least one of  $R_2$  and  $R_3$  represents H;
- characterized in that the following steps are carried out:

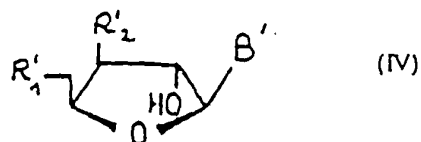
- 1) a compound of formula (II) is condensed with the base B in order to obtain the compound of formula (III) according to the scheme
- 15



in which formulae (II) and (III)

- $R'_1$  and  $R'_2$  have the meanings given for  $R_1$  and  $R_2$  except that when  $R_1$  and  $R_2$  represent OH, the said OH group is protected by a protecting group such as an acyl, benzoyl, benzyl or silyl group,
  - 20 -  $R'_3$  represents a  $C_1$  to  $C_5$  alkyl group or a phenyl radical, which are optionally substituted,
  - X is a leaving group such as Cl, Br, I or a  $C_1$  to  $C_5$  acyloxy or alkoxy group,
  - 25 -  $B'$  is a purine or pyrimidine base B which is optionally appropriately protected,
- 2) the  $R'_3$  CO group at the 2' position is removed by deacylation so as to obtain an OH group and a

compound of formula

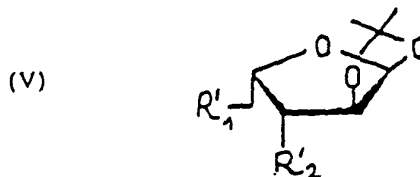


3) optionally, the OH group at the 2' position is removed; and

4) where appropriate, the R'1 and R'2 groups and the B' base are deprotected so as to obtain the compounds of formula (I).

2. Method according to Claim 1, characterized in that in the compounds (II) and (III), R'3 represents a C1 to C5 alkyl group, preferably CH3.

3. Method according to Claim 1 or 2, characterized in that the compound (II), di-O-acetylated at the 1,2 position, in which X and R'3COO represent an O-acetyl group, is prepared by acetolysis of the 1,2-isopropylidene-L-xylofuranose compound of formula (V)



4. Method according to one of Claims 1 to 3, characterized in that R'2 and R'3COO are different, in particular R'2 is an O-benzoyl group and R'3 is an alkyl group.

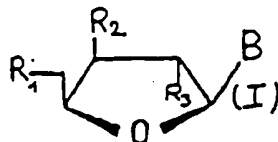
5. Method according to one of Claims 1 to 4, characterized in that the compounds of formula (I) are prepared in which R2 and R3 represent H or OH.

6. Method according to one of Claims 1 to 4, characterized in that B represents one of the adenine, guanine, hypoxanthine, uracil, thymine or cytosine bases, it being possible for these bases to be substituted especially by a halogen at the 5 position for cytosine and uracil.

7. Method for the preparation of a compound of formula (I) in which B is cytosine according to one of Claims 1 to 6, characterized in that a compound of

formula (I) is prepared in which B is uracil according to the method of Claims 1 to 6 and the uridine derivative is converted to a cytidine derivative by converting uracil to cytosine.

- 5 8. Stereoisomeric  $\beta$ -L-pentofuranonucleoside compounds corresponding to the following formula

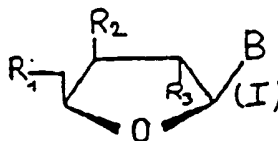


in which

- B has the meaning given in one of Claims 1 and 6,  $R_1$  represents OH and,  
 10 - either  $R_2$  represents OH and  $R_3$  represents H,  
 - or  $R_2$  represents H and  $R_3$  represents OH.

9. Compounds according to Claim 7, characterized in that B represents uracil, 5-fluorouracil, hypoxanthine, 5-fluorocytosine, guanine or adenine.

- 15 10. Stereoisomeric 2',3'-dideoxy- $\beta$ -L-pentofuranonucleoside compounds corresponding to the formula (I)



in which:

- .  $R_1$  represents OH  
 .  $R_2$  and  $R_3$  represent H and  
 20 . B represents uracil, guanine, hypoxanthine, b fluoro-cytosine, fluorocytosine.  
 11. Compound according to Claim 10, which is chosen from  $\beta$ -L-ddU,  $\beta$ -L-5 fluoro-ddU,  $\beta$ -L-5-fluoro ddC.  
 12. Use of the compounds according to one of Claims 8  
 25 to 11, as a drug.  
 13. Use of the compounds according to one of Claims 8 to 11, as an antiviral drug.  
 14. Use of the compounds according to one of Claims 8 to 11, as an antiviral drug which is useful for the

treatment of AIDS.

15. Use of  $\beta$ -L-5-fluoro ddC according to Claim 14, as antiviral agent.

16. Use of  $\beta$ -L-5-fluoro ddC according to Claim 15, as  
5 anti-HIV agent.